



## Section 4.3

### Activity 4.3.1

1. 'Seasonal variation' is the difference in value between the monthly data and the moving trend data.
2. Values in the table:
  - $W = 29.375$
  - $X = 0.5$
  - $Y = -3.625$
  - $Z = 7.875$
3. The line of best fit and other information can be used to give a sales forecast for 2016 in the following ways:
  - The line of best fit projects the general trend in the data going forward to 2016
  - Other information on the market for hotels and economic growth data can be used to support this.
4. The advantages of the moving average method of sales forecasting might be:
  - It is a good way of identifying trends in data over time
  - Seasonal variations can be used to understand how data changes over a year
  - Trend data can be projected to make future forecasts
  - It can support other information that affects sales in a market.

The disadvantages of using moving averages for sales forecasting could include:

- The method is based on past data and is not as useful for long-term forecasting
- Business needs to have sufficient past data
- Significant market changes make interpreting and forecasting data difficult.

### Exam practice question

1. The 'moving average method' is averaging past data over set time periods to create a trend in the data.



2. Moving average data for Rajesh's convenience store:

	Quarter	Sales (\$000)	Quarterly moving average (trend)	Seasonal variation	Average seasonal variation
Year 1	1	18			
	2	24			
	3	35	26.125	8.875	9.208
	4	27	26.5	0.5	0.333
Year 2	1	19	27.125	-8.125	-7.208
	2	26	27.75	-1.75	-2.5
	3	38	28.5	9.5	9.208
	4	29	29.125	-0.125	0.333
Year 3	1	23	29.5	-6.5	-7.208
	2	27	30.125	-3.125	-2.5
	3	40	30.75	9.25	9.208
	4	32	31.375	0.625	0.333
Year 4	1	25	32	-7	-7.208
	2	30	32.625	-2.625	-2.5
	3	42			
	4	35			

3. The estimate of Rajesh's sales for year 5, quarter 4 is based on moving average trend (26.5, 29.125, 31.375): \$34,000.

4. The advantages of the moving average method for Rajesh's store might be:

- Effective for analysing changes over time
- Seasonal variations data can help to explain cyclical changes
- Good forecasting model
- Can be used to other information when forecasting.

The disadvantages of using moving averages for sales forecasting include:

- It is not as good for long-term forecasting because it is based on past data
- A firm may not have access to sufficient data
- Changes in market conditions can make it difficult to interpret data.

## Key concept question

Considerations on the importance of innovation in business forecasting might include:



- Technological advances in forecasting methods – the use of more sophisticated computers and software
- Forecasting sales from newly innovated product it produces – to see whether the investment in the innovation is viable
- Forecasting sales when the innovation takes place in the market – to see how market changes affect the sales of a firm's products in the future.

Considerations on the importance of change in business forecasting might include:

- Economy through economic growth – how economic growth or recession affects sales forecasting
- Market through consumer taste and preferences and competition – if tastes change in favour of a product how it will affect sales forecasts
- Business management – how changes in management decision-making affects sales forecasts.